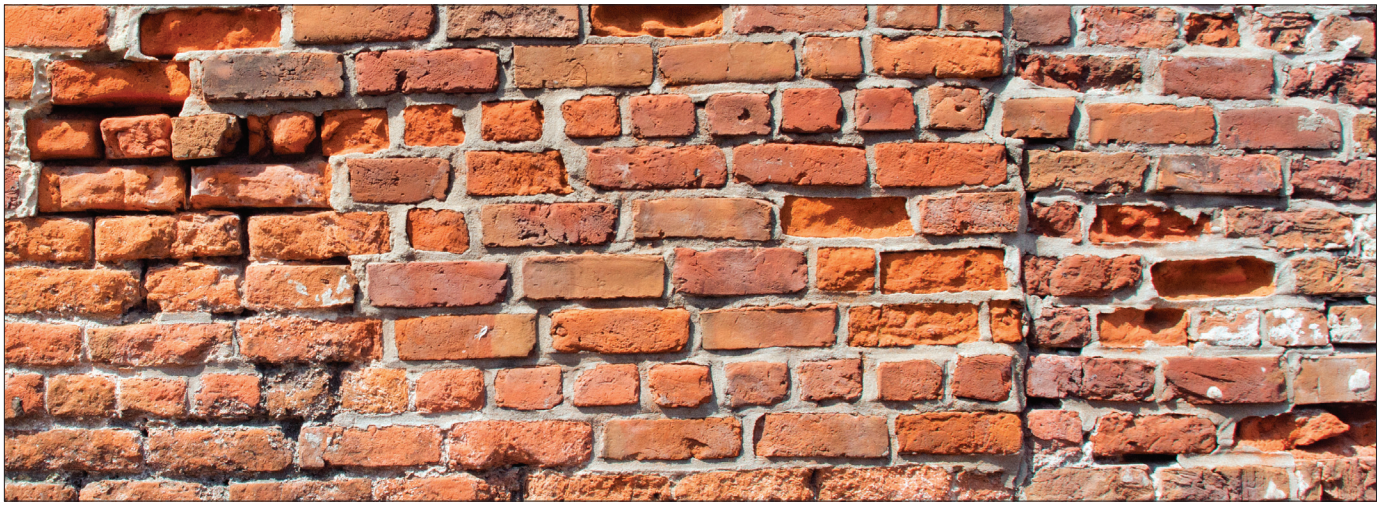
CITY OF NEW ORLEANS

Vieux Carré Commission

Guidelines for Exterior Maintenance



BUILDING MAINTENANCE

The historic architecture of the Vieux Carré features a well-constructed building stock from the late-18th through the mid-20th centuries. Many of these buildings continue to serve residents and tenants because they have been maintained by their owners.

Typically, a building is a family or business owner's largest single investment. One of the best ways to help a property retain its value in the marketplace is to complete regular, preventive maintenance. Unlike the buyer of an automobile, a new property owner is not provided an operator's manual or warranty book outlining a recommended maintenance schedule. As a result, many owners do little or no regular maintenance or repair until a serious problem develops. When a problem finally is noticed, the associated repairs may be more involved and costly to address. A regular property maintenance program can help catch problems early, before they become significant.

SECTION INDEX

The Vieux Carré Commission (VCC) reviews all exterior maintenance of buildings and properties, including within a carriageway or courtyard. This section includes:

- Typical Building Maintenance Needs – 03-2
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All applicants must obtain a Vieux Carré Commission (VCC) permit as well as all other necessary City permits prior to proceeding with any work. Reviewing and becoming familiar with these *Guidelines* during the early stages of a project can assist in moving a project quickly through the permit approval process, saving an applicant both time and money. Staff review of all details is required to ensure proposed work is appropriate to a specific property.

Guidelines addressing additional historic property topics are available at the VCC office and on its website at www.nola.gov/vcc. For more information, to clarify whether a proposed project requires VCC review, or to obtain a property rating of significance or a permit application, contact the VCC at (504) 658-1420.

The first step in using these *Guidelines* is to understand a property's color rating. The rating corresponds to the historical and/or architectural significance and then determines what type of change will be permitted and the review process required for each property under the jurisdiction of the VCC.

Review boxes provided throughout the *Guidelines* indicate the lowest level of review required for the specified work. Staff can forward any application to the Architectural Committee (AC) and/or the Commission for further consideration.

TYPICAL BUILDING MAINTENANCE NEEDS

A property owner must obtain a VCC permit as well as all other necessary permits prior to proceeding with any maintenance or construction work on a property.

Trim overhanging tree limbs
Replace missing terra cotta ridge cap
Replace cracked slates or tiles
Re-nail loose shingles; replace missing shingles
Chimney cracked and leaning – rebuild from roofline; install new flashing; install chimney cap
Replace cracked terra cotta finial
Repair/replace rotted sill
Caulk around window and door frames
Bowed and cracked beam – consult architect or structural engineer
Replace missing slates or tiles
Regularly clean gutters
Repair gutter; replace downspout
Replace missing balusters
Selectively replace rotted siding
Repair/replace damaged shutters and louvers
Restore rotted wood decking
Address possible moisture intrusion problem indicated by peeling paint
Replace missing dentil trim
Re-nail loose board
Remove vines
Remove shrubs close to building
Regrade soil to drain away from foundation
Repair cracked pier
Repair rotted steps
Replace broken glazing
Remove vegetation from vent
Repair/replace rotted column base
Repair cracked stucco
Check for termites at wood steps
Install splash block

REGULAR MAINTENANCE IS GOOD PRESERVATION

Regular maintenance helps preserve a building, structure and property; helps protect real estate values and the investment; and keeps the Vieux Carré an attractive place to live, work and visit. Lack of regular upkeep can cause accelerated deterioration of a building's or property's elements and features. A small opening or unpainted surface can allow moisture penetration and eventually cause rot. In the case of a historic building, character defining elements that are difficult and costly to replace are often lost due to lack of maintenance. Long-term lack of maintenance can also impact a building's structural integrity, resulting in more expensive and substantial repairs.

It is prudent for a property owner to inspect their building and property regularly to identify potential problems. If a problem is detected early, a smaller investment of money may not only improve a property's overall appearance and value, but can prevent or postpone the need for extensive and costly future repairs. Regular maintenance items include painting, cleaning of gutters and downspouts, and inspecting the roof and building regularly for any sign of moisture infiltration, an open joint, a missing component and/or a crack or bulge.

Maintenance Review

Complete regular maintenance or in-kind replacement

1 **2** **3** Staff

MAINTENANCE GUIDE

THE VCC RECOMMENDS:

- Reviewing each building, structure and site feature regularly to identify maintenance and repair needs: in early spring, prior to hurricane season and late fall (Refer to *Top 5 Maintenance Tasks* below)
- Prolonging the lifespan of original materials on a historic property through regular maintenance
- Avoiding replacement of original materials with modern or substitute materials

TOP 5 MAINTENANCE TASKS

Regular reviews can alert a property owner to potential problems before repairs become costly:

1. Review roof for signs of deterioration
2. Clean gutters and downspouts and confirm proper drainage away from the building
3. Review condition of exterior woodwork, windows and doors for detached or loose elements, the need for repainting and sign of termite damage or rot
4. Review condition of masonry piers, walls and chimneys, including stucco and mortar
5. Remove and/or investigate behind vegetation growing on or adjacent to a building or structure

STORM PREPAREDNESS

Regular maintenance should be an integral part of storm season preparation. One of the best ways to reduce the potential risk to life and property during a storm is to regularly maintain a building. This could be as simple as ensuring that shutters are operational and can be closed to protect windows from wind-blown objects or verifying that roofing is secure to prevent the entry of wind-driven rain. Although there are several new hurricane-prevention measures and products on the market, the level of protection, associated costs, and impact on the historic materials and character of the building must also be considered. To provide guidance to property owners, the individual sections of the *Guidelines* include information regarding alternatives for mitigating the potential effects of a storm.

The edge of the roofing at this gallery is bent and not secure. A strong storm winds could peel the roof off of the building.

PREVENTIVE MAINTENANCE CHECKLISTS

These *Guidelines for Exterior Maintenance* include preventive maintenance checklists to assist a property owner in assessing the current condition of their building, as well as in keeping track of maintenance tasks as they are performed.

The checklists refer to typical problems associated with various materials and possible recommended actions. The checklists should be modified to address the specific materials found at each property. If a building has a serious problem, a qualified architect or structural engineer should be contacted to perform a more detailed inspection and recommend an appropriate treatment approach. (Refer to *Cyclical Maintenance Plans,* page 03-14.)

It is recommended that owners conduct three yearly property reviews: before winter, in the early spring and before hurricane season. The fall review will identify weatherization projects needed before winter, as well as projects to be scheduled for the following year; the spring review will identify work that should be completed during the warm weather months; and the pre-hurricane season review can identify work that should be completed to protect a property from high winds and rain. Each area of deterioration or problem should be photographed during every inspection. Dating the photographs can help document the progression of an ongoing problem and assist in planning future repairs. (Refer to *Maintenance Manual*, page 03-14.)

For more specific information regarding the various materials identified, please refer to the *Guidelines* sections available at the VCC office or on its website at www.nola.gov/vcc.

Damage caused by moisture infiltration is evident along the roof overhang. The gutter is dislodged, several soffit boards are missing and/or displaced, and vine growth is progressing on and between the building's components.

BUILDING ENVELOPE DETERIORATION

The exterior envelope of a building consists of various components that typically include roofing, walls, windows and doors. Each of these building components may be constructed of various materials within the same building envelope, such as a combination of shingle roofing at a sloped surface and rolled roofing at a flat surface. Overall, these components of various materials act together as a system to protect both the building and its interior from exterior environmental forces. Some of the environmental influences affecting the exterior building envelope include:

- Moisture, storm water, humidity and groundwater
- Wind
- Sunlight
- Temperature variations
- Atmospheric chemicals and acid rain
- Insects, birds and rodents
- Vegetation, mold, algae and fungi
- General material degradation due to aging

All building materials, new or old, will deteriorate over time. Each of the environmental influences listed above, individually or in combination, has the potential to react with the different materials that compromise a building's exterior envelope and cause deterioration. The potential reactions are complicated further by the manner in which materials are installed, joined together and located. By implementing a regular maintenance and repair program, the rate of deterioration may be slowed dramatically, allowing the Vieux Carré's historic buildings to continue to last for centuries.

SALVAGED MATERIALS

Although the VCC encourages the use of salvaged materials, care should be taken when using building materials salvaged from another property. To be appropriate, a salvaged material needs to match the historic characteristics of the property to which it will be relocated. In addition, it is also possible that a salvaged material, particularly a wood element, can introduce pests, such as termites, to a building site.

REPAIR VS. REPLACEMENT

One of the essential missions of the VCC is to protect and preserve the historic properties of the Vieux Carré for the benefit of future generations. This includes all exterior historic materials found within the District. To preserve the authenticity of the Vieux Carré , the VCC strongly encourages the retention of historic materials or replacement in-kind whenever work on a property is considered. The VCC recommends that repairs be focused at the specific area of deterioration rather than a wholesale replacement of a historic building material or component, understanding that additional care and attention might be required as part of the effort. This approach allows the historic essence of a building to be maintained for future generations.

Repairs are intended to make a building weather resistant and structurally sound by concentrating on the areas of deterioration. Regular maintenance can minimize the need for repairs. Timely repairs can minimize the extent of deterioration and the size and cost of a repair project. For example, it might be possible to repair an existing wood window sash rather than incur the much higher cost of purchasing and installing a replacement window.

When repair is not possible, the property owner is encouraged to replace in-kind. While it may be tempting to use an off-the-shelf solution for a problem, prefabricated alternatives can cause damage to the remaining historic building fabric. For example, a common mistake is the use of commercially available Portland-cement based mortar at a historic brick wall. Because the new mortar is substantially harder than the historic brick, the mortar will accelerate the crumbling of the brick over time. Therefore, it is important for a property owner to understand the technology of a building's construction to minimize the potential for causing long-term harm leading to the need for costly future repairs.

REPAIR & REPLACEMENT GUIDE

THE VCC RECOMMENDS IN PREFERENTIAL ORDER:

1. Making non-intrusive repairs, focused at the deteriorated area, and stabilizing and protecting the building's important materials and features
2. When repair is not possible, replacing in-kind to the greatest extent possible, by reproducing the original feature exactly, using similar techniques to match the original material in size, scale, finish, detailing and texture
3. When replacement in-kind is not possible, using compatible materials and techniques that convey an appearance that matches or is similar to the original feature in design, color, texture, finish and visual quality

THE VCC DOES NOT RECOMMEND:

- Introducing a modern material that can accelerate and/or hide deterioration
- Removing or encapsulating a decorative building feature

Prior patching is evident in multiple roof locations. Note the poorly executed expanded ridge joint repair of the ridge tile.

ROOFING & RELATED ELEMENTS CHECKLIST

As a general rule, roofing and its associated components should be reviewed every fall and spring, as well as prior to hurricane season, and include the removal of leaves and debris from gutters and downspouts. In addition, it is best to check gutters, downspouts and attic areas during a rainstorm to determine whether they are functioning properly. A flat roof is best reviewed immediately following a rainstorm to determine whether standing water or pooling is present. Care should be taken when reviewing or maintaining a roof as it is potentially dangerous, particularly when wet.

If there are questions regarding whether the severity of deterioration warrants replacement of an element, consultation with a professional is recommended. It is usually less costly to fix a small problem than to delay action, which can result in more extensive deterioration and consequent repairs needed. (Refer to the *Guidelines for Roofing* and *Roof Systems & Storm Preparedness, Guidelines for Roofing,* page 04-2.)

MATERIAL / LIFE SPAN	CONDITION OBSERVED	RECOMMENDED ACTION
Roofing – General	• Roof ridge, surface or rafter is sagging or bowing	□ May indicate a significant structural problem – Consultation with an architect or structural engineer is recommended, particularly if condition worsens
Slate, Terra Cotta Tile, Concrete Tile or Ridge Tiles 50+ years	• Slate or tile is laid on spaced wood boards or thin wood batten strips – verify from attic	□ If not, provide proper ventilation in attic
	• Slate or tile is broken or missing	□ Re-attach, re-secure or replace loose or missing slates or tiles in-kind
	• Units delaminating or flaking apart	□ Replace deteriorated individual slates or tiles in-kind
	• Slate or tile particles are in valley, gutter and/or downspout	□ Consider roof replacement when over 20% of slates or tiles are split, cracked, missing and/or deteriorated
Asbestos Shingles 30+ years	• Nails are popping up or deteriorated	□ Re-fasten or replace affected nails
	• Moss, mold or algae is growing on roof surface	□ Clean and treat surface to inhibit future growth □ Trim back overhanging tree limbs to allow direct sunlight onto roof surface
	• Individual shingles are cracked or uniformly thin from erosion	□ Consider roof replacement with appropriate non-asbestos roofing if deterioration is prevalent or substantial
Faux Slate – Rubber or Plastic/Polymer Shingles Varies based on manufacturer	• Individual shingles are cracked	□ Replace deteriorated shingles with visually similar shingles
	• Individual shingles are curled, warped and/or bent	□ Consider roof replacement if deterioration is prevalent or substantial
	• Shingles are faded and/or discolored	□ Consider roof replacement if deterioration is prevalent or substantial

MATERIAL / LIFE SPAN	CONDITION OBSERVED	RECOMMENDED ACTION
Flat Roof Varies based on product	• Asphalt or roof felting is bubbling, separating or cracking • Roof feels loose or spongy underfoot • Water is pooling on roof • Mineral granules or gravel is worn away • Roofing felt looks dry or cracked	□ Consider patching affected areas with compatible materials if condition is isolated □ Consider roof replacement if deterioration is substantial or leaking is observed – Verify condition of roof substrate including rafters and plywood sheathing
Metal Roof 60+ years	• Metal has substantial number of rust or corrosion spots • Metal has signs of aging and/or previous tar patches	□ Tin, terne-coated steel and terne-coated stainless all need regular repair and painting every 5-10 years but can last for decades if properly maintained □ Consider patching with compatible materials if deterioration is isolated □ Consider roof replacement if deterioration is prevalent or substantial
	• Metal is punctured • Joints and/or seams are broken	□ Consider patching or re-soldering with compatible materials if deterioration is isolated □ Consider roof replacement if deterioration is substantial or prevalent – Verify condition of roof substrate
	• Bulge in surface of flat metal roof • Pooling or standing water on surface	□ Consider roof replacement if deterioration is prevalent or substantial – Verify condition of roof substrate
Flashing (Formed sheet metal at joint intersections to prevent moisture penetration)	• Flashing is loose, corroded, broken or missing • Roofing cement or tar is on flashing • Flashing has opening or gap at the top • Vertical joint does not have both base and counter flashing	□ Consider patching or replacement with compatible materials if area of deterioration is isolated, such as around a chimney □ Consider flashing replacement if deterioration is substantial
Roof Projection (Dormer, TV dish, antenna, vent, pipe, skylight, mechanical equipment, lightning rod, cupola, etc.)	• Penetrations at roof projection is not properly flashed and watertight	□ Consider patching with compatible materials if deterioration is isolated □ Consider flashing replacement if deterioration is substantial
Chimney	• Flashing around chimney is not watertight • Mortar joints in chimney are open or badly weathered • Masonry or stucco coating is cracked or crumbling • Chimney is leaning	□ Consider patching with compatible materials if deterioration is isolated □ Re-point deteriorated or open mortar joints □ Consider replacement if deterioration is prevalent or substantial – Replacement may necessitate chimney rebuilding from the roof surface up – Replicate all chimney detailing in reconstruction
	• Chimney is not properly capped • Chimney is not properly lined	□ Install an appropriate chimney cap for the building style □ Install a chimney liner if wood-burning fireplace is used or if masonry or stucco inside flue is crumbling

MATERIAL / LIFE SPAN	CONDITION OBSERVED	RECOMMENDED ACTION
Gutter & Downspout	• Gutter or downspout is clogged	□ Review roof drainage during a rainstorm – Water should collect in gutter and flow through downspout without spilling over roof edge □ Clean out debris at least twice each year, in the spring and fall, or more frequently based on tree proximity and debris accumulation □ Install screen over length of gutter and/or strainer over downspout
	• Gutter or downspout is rusty, loose, askew or tilting • Hanging gutter has open or missing seam • Section is missing	□ Consider repairing or patching with compatible materials if deterioration is isolated □ Consider gutter or downspout replacement if deterioration is substantial or sections are missing
	• Seam in metal lining of built-in box gutter is broken	□ Re-solder open joint □ Consider replacement if deterioration is substantial or prevalent
	• Cast iron downspout boot is rusted	□ Remove rust to bare metal – Apply rust-inhibitive primer and paint
	• Water is pooling adjacent to foundation	□ Re-grade area at foundation to direct water away from building □ Verify water exiting downspout is directed away from building foundation - Install splash block or downspout extension at base of downspout to direct water to drain (see example below)

The crushed downspout is impeding water flow.

The rear chimney has collapsed and there is significant mortar loss at the remaining two chimneys.

A splash block can direct storm water from a downspout away from a building.

The vines on the chimney may clog the flue and dislodge the mortar.

EXTERIOR WOODWORK CHECKLIST

Generally, exterior woodwork should be reviewed every fall and spring, as well as prior to hurricane season. The fall review allows a property to be prepared for winter and the owner to plan for spring repairs and painting. The spring review will alert a property owner to damage that occurred over the winter months and allow for immediate repair. The review prior to hurricane season will identify any loose elements that could be blown off and/or openings that could provide a path into the building for wind-driven rain.

If there are questions regarding whether the severity of deterioration warrants replacement, consultation with a professional is recommended. Painting of exterior wood elements should be completed when the temperature and relative humidity are within the paint manufacturer's recommended range. For further information, refer to the *Guidelines for Exterior Woodwork*, *Guidelines for Windows & Doors* and *Guidelines for Exterior Painting*.

Wood in contact with the ground is more susceptible to damage from storm water, termites and fungi, requiring more frequent maintenance. The larger opening can also allow rodents and pests to nest under the display window.

MATERIAL	CONDITION OBSERVED	RECOMMENDED ACTION
Exterior Wall – General	• Exterior wall is not plumb or vertically straight • Bulge is visible at exterior wall • Door or window frame is out-of-square • Siding has wavy surface	□ May indicate differential or uneven foundation settlement or a significant structural problem – Consultation with an architect or structural engineer is recommended, particularly if condition worsens
Wood Siding, Shingles & Decorative Woodwork (Refer to *Guidelines for Exterior Woodwork* for more information)	• Loose, cracked, missing or open joint is visible at wood siding, shingles or decorative woodwork	□ Could lead to water infiltration and rot – Repair or replace in-kind as appropriate □ Apply caulk to open joint – Verify compatibility with adjacent materials
	• Shingles are thin or worn	□ Attempt patching with compatible material if area of deterioration is isolated □ Consider replacement in-kind if deterioration is prevalent or substantial
	• Open joint is visible around window or door frame • Open joint is between dissimilar materials (such as wood siding and gallery roof)	□ Re-caulk, apply sealant, repair or replace deteriorated flashing as appropriate – Verify compatibility of caulk or sealant with adjacent materials – Select paintable caulk or sealant if possible
	• Mold, algae or mildew is visible on siding or trim, especially on north side or a shady area • Vines are growing on wall	□ Indication of potential moisture problem – Verify if a vapor barrier is present in wall and remove if possible □ Clean and treat surface to inhibit future growth – **Do not use high pressure water because this could result in a more significant problem** □ Remove vines and scrub surface with a stiff brush to remove roots on wall surface after wood has dried □ Trim back shrubs and/or overhanging tree limbs to allow air circulation and sunlight to hit surface
	• Original siding or trim is covered with vinyl or aluminum siding	□ Vinyl or aluminum siding and capping can trap moisture and hide rot and damage – Vinyl or aluminum siding and capping should be removed and woodwork inspected for damage and repaired

MATERIAL	CONDITION OBSERVED	RECOMMENDED ACTION
Water & Termite Damage (Refer to *Guidelines for Exterior Woodwork* for more information)	• A dirt vein is visible on an exterior wall, particularly near a foundation, a step, under a gallery, porch, etc.	□ Possible indication of termite infestation and/or damage – Contact extermination company to determine if there is active infestation and the extent of damage
	• Wood is soft when stuck with a small blade or ice pick, particularly at a window sill, gallery, porch, step, sill or siding (Refer to *Detecting Wood Rot, Guidelines for Exterior Woodwork*, page 05-7)	□ Possible indication of wood rot or insect infestation – Eliminate source of moisture to control rot and replace defective element in-kind; contact an extermination company for potential infestation
	• Wood is located on a masonry foundation or pier or within 6-inches of ground (Refer to *Termites, Guidelines for Exterior Woodwork*, page 05-8)	□ Wood on a masonry foundation or pier or close to the ground can be a target for rot and termite infestation – Review appropriate alternatives to increasing height of wood above grade and conduct regular inspections □ Retain a pest management company to provide regular inspections
	• Vegetation, such as shrubs, is located immediately adjacent to foundation • Vines are climbing on building or structure	□ Vegetation can trap moisture in woodwork by blocking sunlight and/or air circulation – Remove or thin vegetation close to a building or conduct regular inspections for rot behind vegetation □ Climbing vines can trap moisture and grow behind siding – Remove vines to allow air and light
Windows & Doors (Refer to *Guidelines for Windows & Doors* for more information)	• Window and/or door does not fit or operate properly	□ Verify whether frame is racked or out-of-square – Possible indication of differential or uneven foundation settlement or deteriorated wall framing □ Verify whether window is painted shut and hardware (including sash cord or chain) is operational
	• Wood is rotting, particularly at a sill or lower rail	□ Repair or selectively replace in-kind deteriorated component □ Following repairs, verify deteriorated area is well painted and all joints are caulked
	• Window is not operational	□ Verify whether window has been painted shut □ Verify whether sash cord is attached to sash weight
	• Glazing (glass) is cracked	□ Replace to match existing
	• Glazing putty is missing, cracked or deteriorated	□ Replace glazing putty – Verify compatibility with adjacent materials
	• Screen window or door is missing, deteriorated or non-operational	□ Repair or replace deteriorated unit as appropriate □ Consider installing interior screen window and/or door
Painting (Care must be taken in removing paint – Refer to *Guidelines for Exterior Painting* for more information)	• Finish is chalky or dull	□ Surface cleaning might be all that is needed □ If repainting, additional preparation might be required
	• Paint surface is worn	□ Wood generally needs repainting every 5 to 8 years
	• Paint is peeling, curling, crazing or blistering	□ Possible indication of non-compatible paint for surface – Review type of finish on existing material and confirm type of preparation required for new paint, which may include surface hand sanding and/or application of primer □ Possible indication of a moisture problem – Review drainage, potential leak and whether there is a vapor barrier within the wall – Remove vapor barrier if possible □ Paint failure near a roof, downspout, porch or gallery ceiling is often the result of a drainage problem
	• Caulk or sealant is not adhering	□ Verify compatibility of caulk or sealant with the surface material – Select paintable caulk or sealant if possible

EXTERIOR MASONRY & STUCCO CHECKLIST

Masonry is present in almost all buildings, typically as a foundation, pier or chimney, and sometimes as the wall material. As masonry is often part of the structural system of an older building, maintenance is critical to preventing a serious structural problem. Masonry and stucco repair and/or cleaning should be conducted when the temperature is consistently between 40 and 90 degrees Fahrenheit to minimize potential spalling, problems associated with colder temperatures and/or shrinkage from warmer temperatures. Painting or coating of masonry and stucco, where appropriate, should be completed when the temperature and relative humidity are within the paint or coating manufacturer's recommended range.

If there are questions regarding whether the severity of deterioration warrants replacement of an element, consultation with a professional is recommended. It is usually less costly to fix a small problem than to delay action which may result in more extensive deterioration and repair needs. For further information, refer to the *Guidelines for Masonry & Stucco*.

The cracked and missing stucco reveals loss of mortar as well as brick damaged from water infiltration.

MATERIAL	CONDITION OBSERVED	RECOMMENDED ACTION
Exterior Wall & Piers – General	• Masonry wall is cracking	□ May indicate differential or uneven foundation settlement or a significant structural problem – Consultation with an architect or structural engineer is recommended, particularly if condition worsens □ A vertical and/or diagonal crack or a crack that splits individual bricks or stones tends to represent a more significant problem, such as uneven settlement □ A horizontal crack or hairline crack limited to mortar joints or individual stones or bricks tends to be less severe □ Monitor and photograph condition after repair to see if the crack returns
	• Wall plane is bowing or bulging • Wall is leaning	□ May indicate differential or uneven foundation settlement or a significant structural problem – Consultation with an architect or structural engineer is recommended, particularly if condition worsens
	• Water is pooling adjacent to foundation • Vegetation, such as shrubs, is located immediately adjacent to foundation • Vines are growing on a wall • Wall is damp • Moss or algae is on masonry surface	□ Verify water exiting from downspout is directed away from building foundation – Install a splash block or a downspout extension to direct water away from wall □ Vegetation can trap moisture in masonry by blocking sunlight and/or air circulation – Remove or thin vegetation close to a building and/or conduct regular inspections for algae and mold behind vegetation – Remove vines □ Re-grade area adjacent to foundation to direct ground water away from building □ Remove vines and scrub surface with a stiff brush to remove roots on wall surface after wall has dried □ Clean moss or algae from wall surface with low pressure water, also possibly using a gentle detergent and brushing
	• Efflorescence, i.e. water-soluble salts, leached out of masonry and is deposited on a surface by evaporation, usually as a white, powdery surface	□ Clean efflorescence from wall surface with low pressure water, also possibly using a gentle detergent and a natural bristle brush □ Review area for possible additional sources of moisture

MATERIAL	CONDITION OBSERVED	RECOMMENDED ACTION
Mortar	• Soft and crumbling • Open joint or broken joint bonds	□ Consider patching with compatible VCC approved mortar if area of deterioration is isolated – Mortar should match original in composition, appearance, profile and hardness □ Consider replacement if deterioration is substantial
Stones & Bricks	• Spalling, chipping, flaking, cracking or crumbling surface • Loose or missing stones or bricks	□ Consider patching with compatible materials if area of deterioration is isolated □ Consider replacement if deterioration is substantial
	• Pitted surface from sandblasting or pressure washing • Pitted surface from stucco removal	□ Masonry with a damaged surface is more likely to absorb moisture, leading to accelerated deterioration – Consult a professional □ Monitor and photograph condition to see if surface continues to deteriorate □ Review adjacent materials and interior finishes for signs of moisture infiltration and/or rot
Stucco	• Crack in surface	□ Consider patching with compatible stucco if area of deterioration is isolated □ Consider replacement if deterioration is substantial □ A substantial crack might indicate differential or uneven foundation settlement or a severe structural problem – Consultation with an architect or structural engineer is recommended, particularly if condition worsens
	• Bulge in wall	□ Verify keying of stucco to lath or underlying substrate – If wall area moves when pushed, stucco is not bonded and should be replaced with a compatible material to avoid potential surface collapse
Painted Masonry	• Chalky or dull finish	□ Additional preparation might be required prior to repainting – Preparation dependant on surface
	• Peeling, flaking, curling and/or blistering	□ Possible indication of moisture infiltration – Review drainage, potential leaks and presence of a vapor barrier in the wall – Remove vapor barrier if possible □ Paint failure near the roof edge, downspout, gallery, porch ceiling or foundation is often the result of a drainage problem
	• Paint surface worn	□ Similar to woodwork, painted masonry tends to need repainting every 5 to 8 years with compatible paint

This brick-between-posts exterior wall, now exposed to the elements, was designed to be protected with a coating of stucco. Without this layer, the soft brick substrate quickly deteriorates. Wood repairs and replacement bricks are evident.

The area around a building should be cleared of debris and weeds to allow clear flow of storm water. Plant growth should be minimized to prevent roots from taking hold in the foundation of a building or wall.

PROPERTY CHECKLIST

Exterior maintenance extends beyond a building's perimeter to include the surrounding property. Seasonal property maintenance includes clearing drain paths and raking leaves. Larger maintenance issues include: water management on the site, trimming trees and regular repairs to metal galleries and balconies, wood or metal fences, walls, walkways and paved surfaces. Specific maintenance might be required for specialized site elements such as a water feature. Prior to an anticipated storm, secure furnishings and features that could become airborne in a high wind. For further information, refer to the *Guidelines for Site Elements & Courtyards.*

MATERIAL	CONDITION OBSERVED	RECOMMENDED ACTION
Water Management	• Groundwater is directed towards building foundation	□ Re-grade area at foundation to direct ground water away from building
	• Water is pooling adjacent to foundation	□ Verify water from exiting downspout is directed away from building foundation – Install splash block or downspout extension to direct water away from wall
	• Vegetation, such as shrubs, is located immediately adjacent to foundation or vines are climbing on building	□ Vegetation can trap moisture in a wall by blocking sunlight and reducing air circulation – Remove or thin vegetation close to a building or conduct regular inspections for rot, algae, fungus and mold behind vegetation – Remove climbing vines
	• Tree limb extends over roof	□ Trim limb 5-feet away from building – Shade from the sun can lead to the formation of moss, fungus, mold or algae – Leaves and debris collect in and clog gutters and downspouts – Tree limb can cause severe damage if it falls during a storm
Metal Gallery, Metal or Wood Fences	• Metal gallery is deteriorating • Metal fence is deteriorating	□ Check for rust spots or bare metal – Remove rust, prime and repaint every 5 to 8 years □ Verify metal supports and anchors are securely fastened
	• Wood fence is deteriorating	□ Check for deterioration, follow recommendations in the *Exterior Woodwork Checklist,* page 03-8 □ Anticipate repainting or staining every 5 to 8 years
Sidewalk, Walkway, Patio, Courtyard & Pavers	• Brick, flagstone or concrete paver is cracked or missing	□ Verify the condition of the sub-base and replace deteriorated or missing unit in-kind
	• Water is pooling on paved surface • Paved surface is subsiding	□ Verify the condition of the sub-base and reset individual units to allow appropriate drainage
	• Vegetation is growing between individual units	□ Some vegetation has a substantial root structure that can dislodge individual paving units – Remove vegetation if appropriate
Concrete Paving & Driveways	• Concrete is cracked	□ Seal crack to minimize potential water infiltration □ Consider sealing or repaving entire surface if crack is substantial
	• Water is pooling on paved surface • Paved surface is subsiding	□ Verify the condition of the sub-base and patch to allow appropriate drainage
Pests	• Rodent droppings are found • A hole from a burrowing animal is found	□ Possible indication of pest infestation – Contact pest management company to determine if there is active infestation or nesting birds – Review appropriate alternatives and conduct regular inspections

INTERIOR CHECKLIST

An exterior maintenance problem can be most evident at the interior of a building. The areas most likely to demonstrate an exterior problem tend to be the least visited parts of a building, such as the attic and crawlspace. It is important to remember that an attic or crawlspace is a unique space with distinct conditions. An attics sits directly under a roof which can be highly susceptible to moisture infiltration. Similarly, a crawlspace under a building is susceptible to moisture and pest infestation and damage. Because these spaces typically do not have heat, air conditioning and/or moisture control at the same levels as the rest of the building, a problem can fester and become more severe before being noticed.

The dark areas at the top and side of the diagonal wood brace indicate moisture issues. The end of the diagonal wood framing is rotting. The cause of the moisture infiltration should be addressed and the wood framing repaired.

MATERIAL	CONDITION OBSERVED	RECOMMENDED ACTION
Attic Space	• Water stain on a rafter or roof board – Often indicated by either a dark patch on the wood or plaster or possibly a white bloom representing salt crystallization	□ Review during or immediately following a rainstorm to understand whether staining is an active or past problem – Pay particular attention to flashing locations around roof penetrations such as vent pipes, chimneys and dormer windows, as well as at valleys and eaves, especially prior to hurricane season
	• Mildew is on underside of roof structure • Attic space is damp • Attic is overheated	□ Verify whether the attic is properly ventilated
	• Beam is broken or missing • Rafter is cracked or sagging	□ Potential structural problem – Consultation with an architect or structural engineer is recommended, particularly if condition worsens
	• Insulation is inadequate at attic floor or between rafters	□ Install appropriate insulation without a vapor barrier – Select insulation that is reversible and will not cause damage if wet (Refer to *Guidelines for Exterior Woodwork*)
Crawlspace	• Mortar of wall or pier is soft and crumbling • Smells damp or moldy • Dampness is evident under first floor framing or around pipes • Wood rot or insect infestation is evident at wood sill on top of foundation wall or at a first floor joist • Floods periodically	□ Review for potential moisture infiltration □ Verify water exiting from each downspout is directed away from building foundation – Install a splash block or downspout extension at base of all downspouts □ Re-grade area at foundation to direct ground water away from building □ Verify that foundation vents are clear of debris □ Check underground water supply and drainage system for a cracked or clogged pipe □ Re-point areas of deteriorated mortar □ Apply stucco to brick piers where appropriate □ Retain a pest management company to provide regular inspections and contact immediately at any sign of potential infestation
	• Insulation is inadequate	□ Install insulation under first floor framing □ Install appropriate insulation around pipes and heating and air conditioning ducts – Condensation can form on uninsulated equipment and pipes

The foundation vent is cracked and rusting. The grille has been blocked from behind reducing air circulation in the crawlspace. Also note the loss of mortar at the brick joints.

MAINTENANCE MANUAL

To help keep track of conditions, problems, maintenance tasks and contractors who performed the work, it may be helpful for the property owner to develop a maintenance manual or property record book. The information in the manual generally falls into four categories:

1. **General information** should include the name and telephone number for emergency services and repairs, as well as basic information on specific building equipment.
2. **Documentation** information should include historical, construction, alteration and legal information that is specific to the property's past and current conditions.
3. **Inspection and Maintenance Requirements** should include the preventive maintenance checklists and items to be inspected; how often inspections occur; and information on repair and upkeep techniques of particular components, materials and equipment.
4. **Dated Photographs** of the overall building as well as detailed photographs of problem areas can indicate if a specific problem is worsening over time.

It is useful to assemble this information in a way that can be updated and referenced easily, such as in a three-ring binder. If regularly updated, this manual of conditions will assist a property owner in diagnosing problems, tracking changes over time, prescribing remedies and evaluating the effectiveness of those remedies similar in manner to a physician tracking a patient's health.

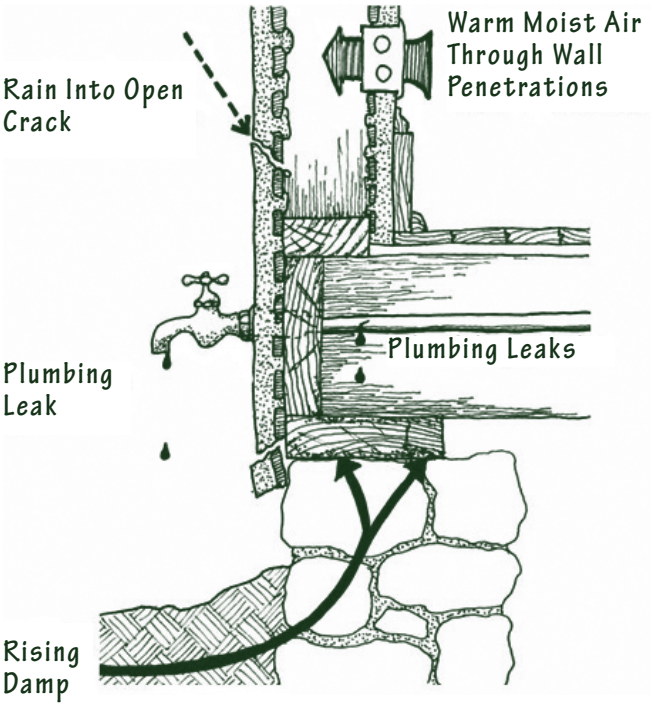
CYCLICAL MAINTENANCE PLANS

Although a maintenance manual can provide a good record, a property owner may want to consult with an architect or engineer for a more property-specific building evaluation or cyclical maintenance plan that is customized to the needs of a particular property.

MOISTURE

Moisture is the primary agent of decay in a building. It can promote a wide range of deterioration, including termite infestation. In addition, no matter how "waterproof" a building is, water vapor will find its way into the structure. Saturated building materials can:

- Make wood a desirable food for insect consumption
- Promote the growth of mold, algae and/or fungi
- Cause wood and masonry to swell when wet, exerting additional pressures, particularly during freezing temperatures
- Compromise the structural integrity of the building
- Cause chemical reactions that might deteriorate materials by transmitting salts and minerals through walls, particularly in masonry
- Damage or destroy interior finishes and furnishings



Condensation *occurs when warm moist air from a kitchen, bathroom or laundry facility comes in contact with a cold surface and changes to water droplets.*

Plumbing Leak *can occur from a leaking bathroom fixture, kitchen or laundry appliance, as well as from interior or underground piping.*

Rain and Precipitation *can enter the exterior envelope through a damaged or cracked surface or a joint between adjacent materials such as at a window or door frames.*

Rising Damp *is the migration of moisture from the soil into the building structure through capillary action. The soil adjacent to the foundation can become saturated through improper drainage from a leaking pipe, gutter or downspout or vegetation adjacent to the foundation.*

TERMITE PREVENTION CHECKLIST [1]

Do not give termites easy access to a building:

- Eliminate wood-to-soil contact
- Install wood siding, door and window frames and latticework at least 6-inches above ground level
- Support an outdoor wood porch or step on a concrete base extending at least 1-inch above ground level
- Do not allow any non-structural wood or a tree branch to touch a building

Do not provide termites with moisture:

- Place gutters and slope exterior ground surface so storm water drains away from the building
- Drain air conditioning condensate away from the building
- Prevent moisture from entering around a window, door or siding
- Repair a leaking roof, gutter, downspout or plumbing promptly
- Ensure sufficient clearance between soil and structural wood in a crawl space to provide adequate cross-ventilation
- Keep a mulched bed or garden at least 12 inches away from foundation

Eliminate hidden access to a building:

- Do not add fill dirt beneath a porch, terrace or step
- Do not extend stucco or foam insulation below the ground
- Do not disturb the chemical barrier after soil treatment
- Prevent and fix cracks in concrete walls, piers and slabs

Minimize the amount of wood available for termites:

- Remove all scrap wood, form board and grade stakes used in construction
- Remove wooden debris and cellulose material from under and around the building
- Replace rotten or destroyed structural wood with properly pressure-treated wood or a non-cellulose material
- Store a woodpile away from a building, and make sure it is raised off the ground
- Paint or seal all exterior wood

Inspect your property frequently for termites:

If a property is to be treated, get at least three licensed companies to inspect the property. They will make a diagram of the property showing proposed treatments and give you an estimate. Ask for a copy of the company's bond and insurance information and a sample contract. Ask to see copies of the labels and material safety data sheets (MSDS) for the termiticides to be used. With the above information, a comparison may be made of the services offered and the prices the companies want to charge. Read the contract carefully. Remember, it is a LEGAL contract.

[1] Based on: *A Guide for Integrated Pest Management of Termites,* www.agctr.lsu.edu, Publication 2979. April 2000. (Refer to *Termites, Guidelines for Exterior Woodwork,* page 05-8.)

Improperly maintained paint along the bottom of the shutters leaves them susceptible to damage from moisture, termites and other pests.

PAINTING

Paint is one of the most common ways to protect exterior materials from the elements. When a painted surface has been compromised, moisture and the elements can infiltrate the underlying material and accelerate potential deterioration.

In general, exterior surfaces should be repainted every 5 to 8 years, with intermediate touch-ups to a high traffic, worn or deteriorated area. If the need and frequency of complete repainting is greater, this may indicate a problem such as:

- Presence of excessive moisture
- Paint applied with inadequate surface preparation or under adverse conditions, such as a high temperature or relative humidity
- Paint incompatibility with underlying material or previously applied paint

For further information regarding painting, including how to determine whether painting is necessary and appropriate paint preparation techniques, refer to the *Guidelines for Exterior Painting* and *Masonry & Stucco Painting, Guidelines for Masonry & Stucco*, page 06-11.

PAINT REMOVAL SAFETY

Paint removal is potentially hazardous work, especially at a historic building. Keep children and pets clear of work areas. The property owner should consult a professional for work that is unfamiliar or potentially unsafe. (Refer to *Safety Precautions*, page 03-16.)

- Always wear safety goggles
- Avoid heat tools – When using, wear appropriate clothing and keep a fire extinguisher nearby
- Paint dust from an older building may contain lead – Wear a ventilator; avoid an open food or beverage container in area of paint removal; and thoroughly clean exposed skin and launder work clothes

SAFETY PRECAUTIONS

Building repair and maintenance can be dangerous work. It is recommended that all manufacturers' recommendations be followed and appropriate safety precautions be taken with ladders, tools, materials and processes. A property owner should consult a professional for work that is unfamiliar or potentially unsafe.

An older building may contain dangerous materials such as asbestos, lead and/or mold that might be uncovered during work. A property owner should become familiar with these materials and the building's conditions before beginning work and/or hiring a licensed professional.

Information about potentially hazardous materials can be procured from the following agencies:

Asbestos

Great care should be taken when working with a broken asbestos product and during its removal.

US Environmental Protection Agency Hotline

(800) 368-5888 – www.epa.gov/asbestos

Louisiana Department of Environmental Quality

(866) 896-LDEQ

www.deq.louisiana.gov/portal/tabid/2883/Default.aspx

Lead

National Lead Information Clearinghouse

(800) 424-LEAD – www.epa.gov/lead

Louisiana Department of Environmental Quality

(866) 896-LDEQ

www.deq.louisiana.gov/portal/tabid/2883/Default.aspx

City of New Orleans Office of Safety & Permits

(504) 658-7130

Mold

Indoor Air Quality Information Clearinghouse

(800) 483-4318

www.epa.gov/iaq/molds/index.html

For additional questions or information, please contact:

- New Orleans Office of Safety and Permits at (504) 658-7130 for general questions
- Your personal physician for health-related concerns

These asbestos shingles are wearing and cracking. Prior patching is evident. Removal and proper disposal should be completed by a licensed contractor as part of roof replacement.

BUILDING CODES

For all construction projects, the City of New Orleans refers to the International Building Code, Residential Code, and Existing Building Code as amended. The intent of the Codes is to protect the public health, safety and welfare of citizens against the hazards of an inadequate, defective or unsafe condition. The Codes address the interior and exterior conditions of a building, building systems and the surrounding property. Some additional items to keep in mind when undertaking a project:

- When completing a significant repair where roof or wall framing is exposed, it is recommended that appropriate shoring and bracing be installed until work is completed
- The property owner is responsible for complying with all applicable zoning and building codes and obtaining all required approvals and permits prior to commencing construction work
- The property owner is responsible for ensuring that all asbestos and lead removal and disposal is handled in accordance with all applicable laws, regulations and/or procedures – It is recommended that all asbestos-related work be undertaken by a licensed and certified contractor

HIRING A CONTRACTOR

- All contractors are not necessarily experienced in historic buildings or building materials
- Verify whether a contractor is licensed to work in the city of New Orleans
- Verify whether the contractor is experienced in meeting VCC requirements and will obtain required approvals and permits
- Request a written estimate detailing the work
- Verify extent of warranty for both materials and labor
- Check references, especially from 5 years prior, to understand how well work has held up
- Hold final payment, such as 25%-30% of project cost, until all work has been completed properly

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www.nola.gov/vcc

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